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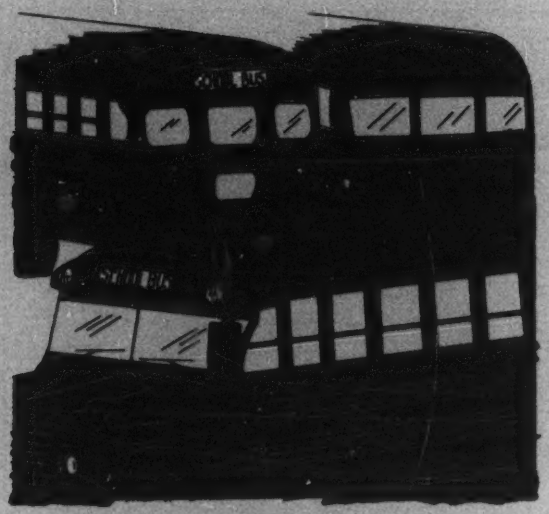

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Volume 27 *Number 6*

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SCHOOL BUS STATISTICS

Factory Sales School Bus Chassis By Make and G.V.W.

U.S. Domestic Sales and Canadian Imports

G.V.W.	19,501-26,000		26,001-33,000		Over 33,000		Total	
Make	**1981**	**9 Mos. 1982**	**1981**	**9 Mos. 1982**	**1981**	**9 Mos. 1982**	**1981**	**9 Mos. 1982**
Chevrolet	2262 12.9%	2099 14.4%					2262 9.2%	2099 10.5%
GMC	1937 11.0%	1823 12.5%	46 1.0%		2457 99.7%	1162 100%	4440 18.0%	2985 14.9%
Ford	5853 33.3%	5121 35.1%					5853 23.8%	5121 25.5%
IHC	7419 42.2%	5416 37.2%	3371 73.9%	3660 84.6%			10790 43.8%	9076 45.2%
Others	129 0.7%	115 0.8%	1144 25.0%	666 15.4%	7 0.3%		1280 5.2%	781 3.9%
Total	**17600**	**14574**	**4561**	**4326**	**2464**	**1162**	**24625**	**20062**

Note: Percentages may not total exactly due to rounding.

Source: Motor Vehicle Manufacturers Assn.

STATISTICS ON SCHOOL TRANSPORTATION
1980-81
Based on Reports from State Department of Education
Prepared by The National Association
State Directors of Pupil Transportation Services

State	Pupils Transported at Public Expense	Number of Vehicles Used				Total Number of Buses	Transportation Expenditures Including Capital Outlay
		Type		Ownership			
		Type I	Type II	Public Operated	Contractor Operated		
TOTALS	**22,598,975**	**263,528***	**35,490***	**206,141***	**70,991***	**334,461**	**$4,125,443,607***
Alabama	463,724	6,179	113	6,112	180	6,292	48,243,238
Alaska	37,995	500	69	103	466	569	16,824,679
Arizona	177,065	2,671	332	2,867	136	3,003	45,658,641
Arkansas	269,857	3,968	110	4,036	42	4,078	40,747,751
California	797,574	14,868	5,910	13,703	7,075	20,778	323,502,032
Colorado	220,883	3,612	1,252	4,022	842	4,864	22,056,523[1]
Connecticut	342,700[8]	4,051	687	388	4,350	4,738	N/A
Delaware	85,719	1,221	31	379	873	1,252	18,114,872
D.C.	2,350	16	112	128	0	128	N/A
Florida	698,967	N/A	N/A	6,567	549	7,116	71,513,415
Georgia	790,000	8,015	985	N/A	N/A	9,000	92,000,000
Hawaii[7]	37,453	484	213	15	682	697	7,994,261
Idaho	118,887	1,665	199	1,463	399	1,864	20,551,363
Illinois[8]	742,000	16,000	N/A	N/A	N/A	16,000	135,000,000
Indiana	700,000	N/A	N/A	9,507	493	10,000	96,415,461
Iowa	269,137	6,267	657	6,645	279	6,924	56,745,340
Kansas	165,298	4,277	527	3,711	1,093	4,804	40,460,523
Kentucky	465,521	6,909	354	6,963	300	7,263	85,417,761
Louisiana	592,773	7,019	242	3,194	4,067	7,261	97,904,847
Maine	169,186	2,130	95	1,807	418	2,225	29,375,108
Maryland	460,000	4,717	208	2,362	2,563	4,925	96,438,192
Massachusetts[7]	727,475	6,213	2,163	1,739	6,637	8,376	112,785,383[3]
Michigan	1,034,226	12,500	1,500	N/A	N/A	14,000	225,000,000
Minnesota	812,807	8,158	1,464	4,821	4,801	9,622	139,880,277
Mississippi	364,398	5,105	292	5,253	144	5,397	48,066,518
Missouri	478,376	8,261	586	5,825	3,022	8,847	105,540,447
Montana	57,843	1,222	81	670	633	1,303	22,750,666
Nebraska	287,003	2,213	1,181	2,752	642	3,394	29,554,883
Nevada	51,817	824	52	874	2	876	13,568,884
New Hampshire	101,687	1,412	244	306	1,350	1,656	12,638,271
New Jersey	679,450	8,500	4,250	5,100	7,650	12,750	150,000,000
New Mexico	126,355	1,642	288	503	1,427	1,930	29,519,037
New York	1,953,482[3]	15,884	6,702	13,126	9,460	22,586	562,860,150
North Carolina	730,615	12,622	0	12,622	0	12,622	98,852,232
North Dakota	48,428	1,855	98	1,562	391	1,953	19,927,732
Ohio	1,393,426	13,865	340	13,959	246	14,205	214,365,847
Oklahoma	281,814	5,692	341	6,033	N/A	6,033	78,258,023
Oregon	250,243	3,948	299	3,099	1,148	4,247	63,973,651
Pennsylvania	1,476,638	N/A	N/A	N/A	N/A	17,098	202,203,511[8]
Rhode Island	70,784	N/A	N/A	N/A	N/A	1,229	13,325,454
South Carolina	417,918	6,519	446	6,725	240	6,965	44,509,333
South Dakota	46,861	1,427	201	1,194	434	1,628	13,254,641
Tennessee	594,741	6,112	339	5,126	1,325	6,451	67,415,268
Texas	866,718	17,552	1,450	18,960	42	19,002	94,717,154[4]
Utah	107,573	1,217	69	1,233	53	1,286	19,656,824
Vermont[7]	74,896	907	189	789	307	1,096	11,580,958
Virginia	743,708	8,812	285	8,854	243	9,097	100,161,436
Washington	387,600	5,447	281	5,052	676	5,728	112,455,720
West Virginia	292,632	2,862	61	2,862	61	2,923	59,860,995
Wisconsin	494,296	7,149	0	1,999	5,150	7,149	96,280,400[7]
Wyoming	38,078	1,039	192	1,131	100	1,231	17,515,905
Manitoba	56,441	1,689	160	1,541	308	1,849	23,855,911
Guam	30,000	201	5	206	N/A	206	4,437,869
Puerto Rico	156,336	1,009	426	464	971	1,435	9,600,000
Saipan	1,320	13	1	14	0	14	243,000

[1] Does not include capital outlay in local dollars
[2] Does not include capital outlay
[3] Includes public service
[4] State allocation only, does not include local expense above state allocation
[5] 77-78 data
[6] 78-79 data
[7] 79-80 data
*Not all states reporting

School Bus Accidents By State

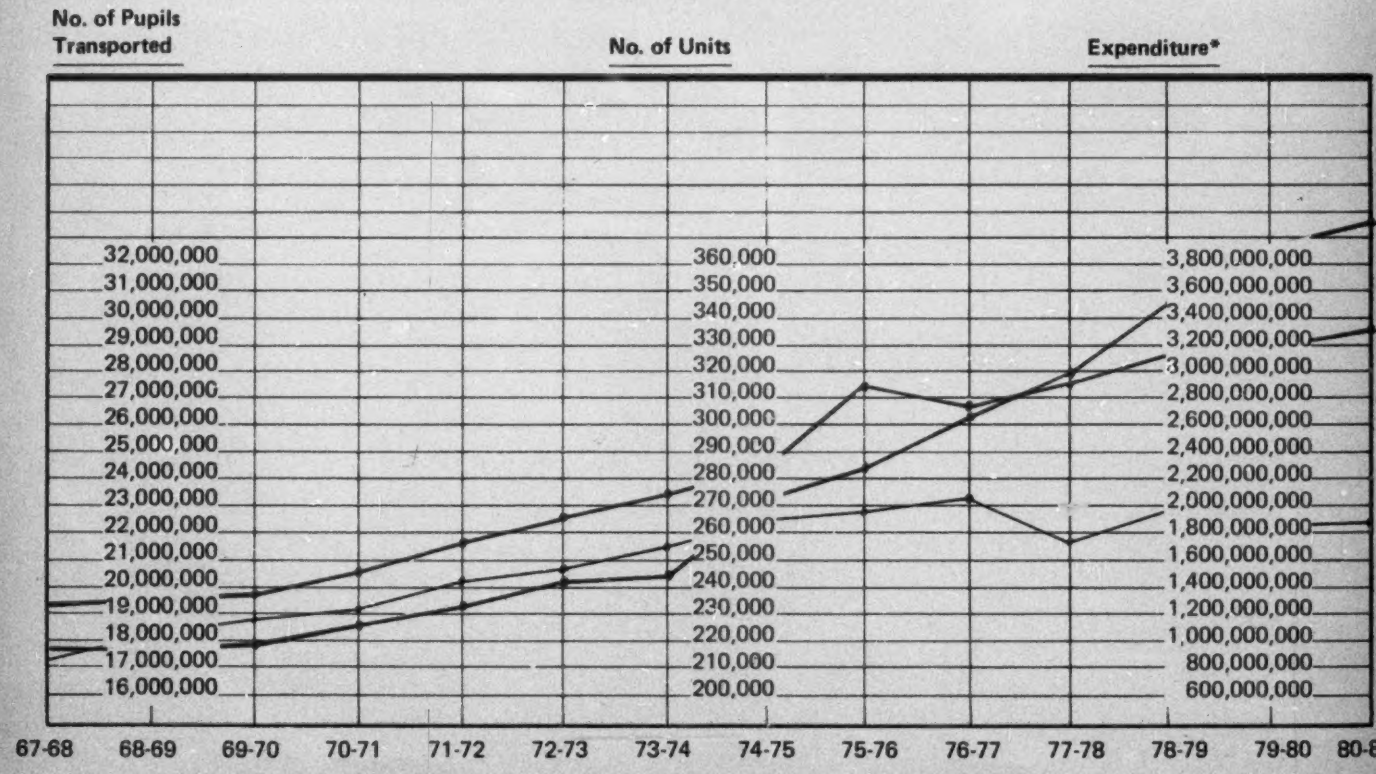
State	Total Vehicles	Annual Bus Mileage (000)	Pupils Transp. Daily	Type of School Bus Accident				Prop. Damage Only Acc.	Persons Injured	
				Total	Other Veh.	Non-coll.	Fixed Obj.		Total	Pupils
U.S.	380,000	3,000,000	21,600,000	55,000	43,000	1,900	3,000	50,000	7,000	4,300
Alabama	5,941	50,825	463,724	215	187	3	10	175	106	77
Alaska	...	...	...	...	...	...	...	...	...	...
Arizona	2,592	34,100	177,065	170	148	1	4	113	77	33
Arkansas	4,082	34,800	...	179	137	34	8	171	36	31
California	20,778	242,225	...	1,861	1,536	0	176	1,521	...	...
Colorado	...	...	...	129	...	...	...	118	32	30
Connecticut	4,738	...	...	680	640	0	32	470	209	99
Delaware	1,261	15,207	85,719	72	60	1	8	62	10	3
Dist. of Col.	...	...	...	...	...	...	...	...	...	...
Florida	7,116	122,314	766,089	908	835	0	40	791	116	31
Georgia	...	...	...	...	...	...	...	...	...	...
Hawaii	...	...	...	...	...	...	...	...	...	...
Idaho	1,864	17,405	118,887	106	78	2	6	75	69	59
Illinois	17,800	146,890	876,322	2,183	2,085	20	43	1,779	784	360
Indiana	10,000	57,416	700,000	885	...	...	...	741	...	...
Iowa	6,924	65,285	269,137	472	328	12	110	388	118	84
Kansas	5,025	50,000	189,262	253	226	12	11	170	139	33
Kentucky	7,263	68,506	465,521	958	845	3	51	786	324	192
Louisiana	7,243	87,105	592,790	776	690	10	14	...	479	372
Maine	2,222	26,411	169,186	98	86	0	10	90	35	29
Maryland	4,925	71,368	457,968	1,043	882	0	90	...	22	6
Massachusetts	...	...	...	...	...	...	...	...	...	...
Michigan	15,000	198,000	1,000,000	1,559	1,418	10	58	1,214	568	152
Minnesota	9,699	113,319	598,487	681	637	6	14	524	256	...
Mississippi	5,397	37,865	364,398	389	351	2	12	218	170	140
Missouri	9,068	86,784	478,376	749	541	67	110	703	247	183
Montana	1,303	92,328	57,843	67	40	1	25	61	5	4
Nebraska	2,650	23,047	72,000	94	82	8	2	...	24	24
Nevada	...	...	...	...	...	...	...	...	...	...
New Hampshire	1,656	12,000	102,000	116	107	0	4	96	36	9
New Jersey	12,500	125,000	641,973	638	517	15	38	253	423	377
New Mexico	2,006	17,183	128,741	235	152	10	13	167	60	51
New York	22,586	135,873	1,953,482	618	486	1	19	227	1,008	835
North Carolina	12,622	104,055	730,615	1,021	802	118	5	728	728	455
North Dakota	2,056	25,080	48,930	53	49	3	1	45	60	54
Ohio	11,610	149,493	1,250,309	2,203	1,846	13	190	2,038	434	406
Oklahoma	6,033	58,056	303,461	432	402	1	11	295	241	105
Oregon	4,247	41,966	248,798	491	366	2	91	474	22	9
Pennsylvania	17,098	232,362	1,476,638	862	...	...	...	...	305	266
Rhode Island	1,295	14,830	12,985	107	106	0	0	93	13	10
South Carolina	6,219	60,994	417,918	849	782	28	21	824	421	370
South Dakota	1,628	17,657	46,861	65	54	3	2	42	23	6
Tennessee	6,451	65,424	594,741	817	632	28	78	746	231	227
Texas	19,002	143,015	866,718	1,619	1,396	13	53	1,185	653	492
Utah	1,264	13,801	107,573	50	45	0	0	46	21	19
Vermont	1,086	11,024	76,056	69	67	0	2	50	...	...
Virginia	9,097	79,348	743,706	680	637	10	14	580	202	138
Washington	5,950	57,500	360,000	324	298	1	13	211	201	37
West Virginia	3,330	36,329	288,385	631	490	23	118	602	89	69
Wisconsin	7,154	81,008	502,743	812	642	4	1	...	...	...
Wyoming	1,300	9,651	38,078	46	42	2	1	38	26	18

Source: State departments of education and state traffic authorities. Most reports cover 1980-1981 school year or 1981 calendar year. U.S. totals are National Safety Council estimates for the calendar year 1981.

Growth of School Transportation In The United States

		Number of Pupils Transported	Number of Vehicles Used	Pupils Per Vehicle	Expenditure*	Expenditure Per Pupil
	1980-81	22,598,975	334,461	67.6	$4,125,443,607	$182.50
	1979-80	22,578,280	329,808	68.5	3,894,893,829	172.50
	1978-79	22,882,191	323,333	70.8	3,341,035,199	146.01
	1977-78	21,923,780	315,489	69.5	2,880,513,030	131.39
	1976-77	23,156,006	298,173	77.7	2,666,446,831	115.15
	1975-76	22,757,316	312,030	72.9	2,285,840,977	100.44
	1974-75	22,398,556	282,834	79.2	2,000,991,592	89.33
	1973-74	21,169,633	271,552	77.9	1,537,148,313	72.61
National Association of	1972-73	20,791,737	262,579	79.2	1,407,472,462	67.62
State Directors of Pupil	1971-72	20,047,589	257,804	77.8	1,324,740,407	66.02
Transportation Services	1970-71	19,191,483	245,608	78.1	1,178,910,190	61.82
	1969-70	18,752,735	239,973	78.1	966,135,767	51.51
	1968-69	18,467,944	238,102	77.6	901,353,107	48.80
National	1967-68	17,271,718	230,578	74.9	822,595,699	47.62
Education	1966-67	16,684,922	221,722	75.3	763,600,617	45.76
Association	1965-66	16,423,396	210,692	77.9	696,325,421	42.40
	1964-65	15,413,000	206,000	74.8	642,627,000	41.69
	1963-64	15,559,524	200,116	77.7	612,310,333	39.35
	1962-63	14,247,753	195,397	72.9	578,017,634	40.57
	1961-62	13,687,547	191,160	71.6	540,168,114	39.46
U.S. Office	1960-61	13,106,779	185,869	70.5	505,754,515	38.59
of Education	1959-60	12,700,989	179,780	70.6	474,202,128	37.34
	1958-59	12,021,372	176,222	68.2	441,402,595	36.72
	1957-58	11,343,132	170,689	66.4	419,539,863	36.99
	1956-57	10,683,643	164,863	64.8	382,751,973	35.83

*Expenditures include purchase of equipment and tools, salaries, maintenance, supplies and fixed charges, such as licenses, drivers' physical examinations, insurance, etc.



february-march 1983

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Reflections On The Industry:
- SBF's Survey
- Diesel's Market Share
- Washington's Experiment

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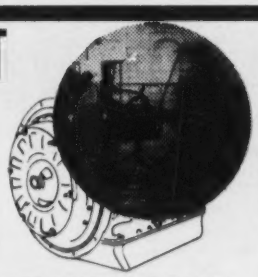

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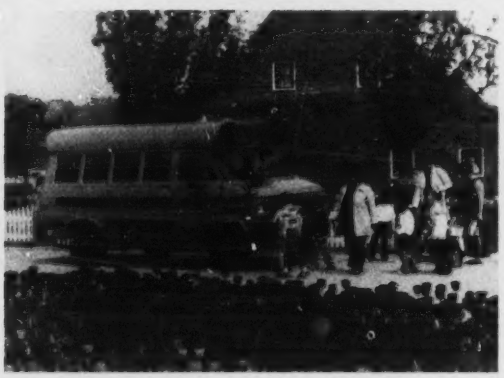

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feb/mar 1983

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a bobit publication

Volume 28 *Number 1*

On our cover: The new Ward Patriot
Photo courtesy of AmTran

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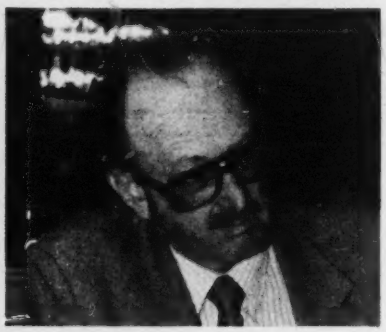
industry news

PORTLAND AWARDS FOUR YEAR CONTRACT TO ARA

ARA Transportation has secured its fourth consecutive contract for school bus service from the Portland School District.

ARA will supply 170 route buses to the district for four more years. It won out over two other contractors when the bids were opened in the late fall.



Peter Gregg

According to the transportation administrator Peter Gregg, the new contract is 9.8 percent lower than the existing contract between the district and ARA. "I think the savings came about because there was keen competition among three reputable and well organized firms," he says, "and the fact that we asked for bids for both gasoline powered fleets and fleets that can be converted to propane."

Several months ago district officials decided to convert their entire fleet to propane. Portland Public School owns 76 of the 246 bus fleet, with the remainder owned by ARA. Nearly all of the ARA fleet will be converted as the fleet averages only five to seven years of age; many of the district owned small vans are approaching 10 years of age and will likely be replaced with new vehicles.

The district plans to advertise this spring for bids to make the mechanical conversion of the diesel engines; it will also advertise a propane fuel supply contract. Gregg says altogether more than 200 buses will be converted.

FISCAL YEAR 1983 SECTION 406 PROGRAMS

State	Apportionment	State	Apportionment
Alabama	$ 26,923	Montana	$ 10,547
Alaska	7,500	Nebraska	16,210
Arizona	20,365	Nevada	7,940
Arkansas	18,197	New Hampshire	7,500
California	130,387	New Jersey	38,541
Colorado	21,024	New Mexico	11,315
Connecticut	16,765	New York	94,700
Delaware	7,500	North Carolina	36,961
D.C.	7,500	North Dakota	11,244
Florida	55,967	Ohio	62,432
Georgia	36,092	Oklahoma	24,911
Hawaii	7,500	Oregon	24,100
Idaho	10,900	Pennsylvania	68,065
Illinois	67,475	Puerto Rico	16,112
Indiana	35,029	Rhode Island	7,500
Iowa	24,561	Sec'y of Interior	7,500
Kansas	23,832	South Carolina	20,902
Kentucky	24,049	South Dakota	10,207
Louisiana	25,547	Tennessee	29,935
Maine	7,500	Texas	93,682
Maryland	22,806	Utah	11,147
Massachusetts	30,750	Vermont	7,500
Michigan	55,559	Virginia	31,790
Minnesota	31,291	Washington	27,704
Mississippi	18,757	West Virginia	12,669
Missouri	34,800	Wisconsin	32,810
		Wyoming	7,500
		Grand Total	**$1,500,000**

These are the federal monies available to the states for school bus driver training that have been appropriated for FY83. School transportation directors have until Sept. 30, 1986 to obligate these funds; otherwise they revert to the federal treasury. Funding authorization expires at the end of FY83.

NYAPT SETS STATE AGENDA FOR 1983

Based on survey results from more than 100 school transportation supervisors throughout the state, the New York Association for Pupil Transportation developed its legislative agenda for 1983. According to NYAPT spokesman Theodore Thompson, the organization will advocate these changes, in rough order of importance, be made by the state legislature:

- Replace the 28 inch seat back state rule to allow the lower federal standard (24 inches) to prevail.
- Fund the driver training program at the state level now that the federal government has terminated its funding.
- Devise a simpler transportation aid formula with incentives for efficient routing.
- Enforce school bus passing laws more strictly.

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Survey Reveals Industry Still Strong, But In Transition

The results of our recent survey indicate longer turnover, more mileage, and the beginnings of a shift to diesel powerplants.

By Cliff Henke
Managing Editor

Enrollment may be declining and the number of new vehicles sold may be decreasing, but more vehicle miles are being driven than ever before, according to a survey by SCHOOL BUS FLEET.

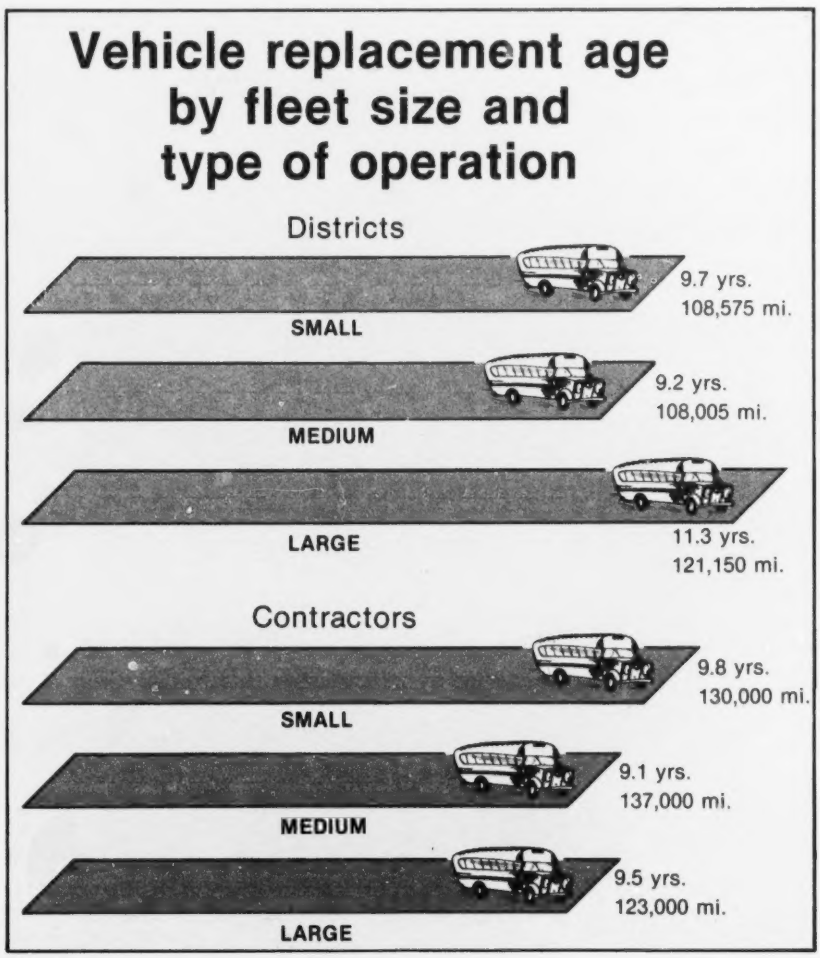
The five month long survey found that nearly five billion vehicle miles were logged by the school bus industry during 1982; the average bus put 14,539 miles on the odometer last year. The overall mileage figure represents a surprising 63 percent increase from the figure given by the National Safety Council survey estimates for mileage in 1980.

Surveys were sent on an nth name basis to 1000 readers; 383 fleets responded. The response accurately reflects the composition of the industry, with 82 percent of the respondants representing school district operated fleets and 18 percent representing contract haulers.

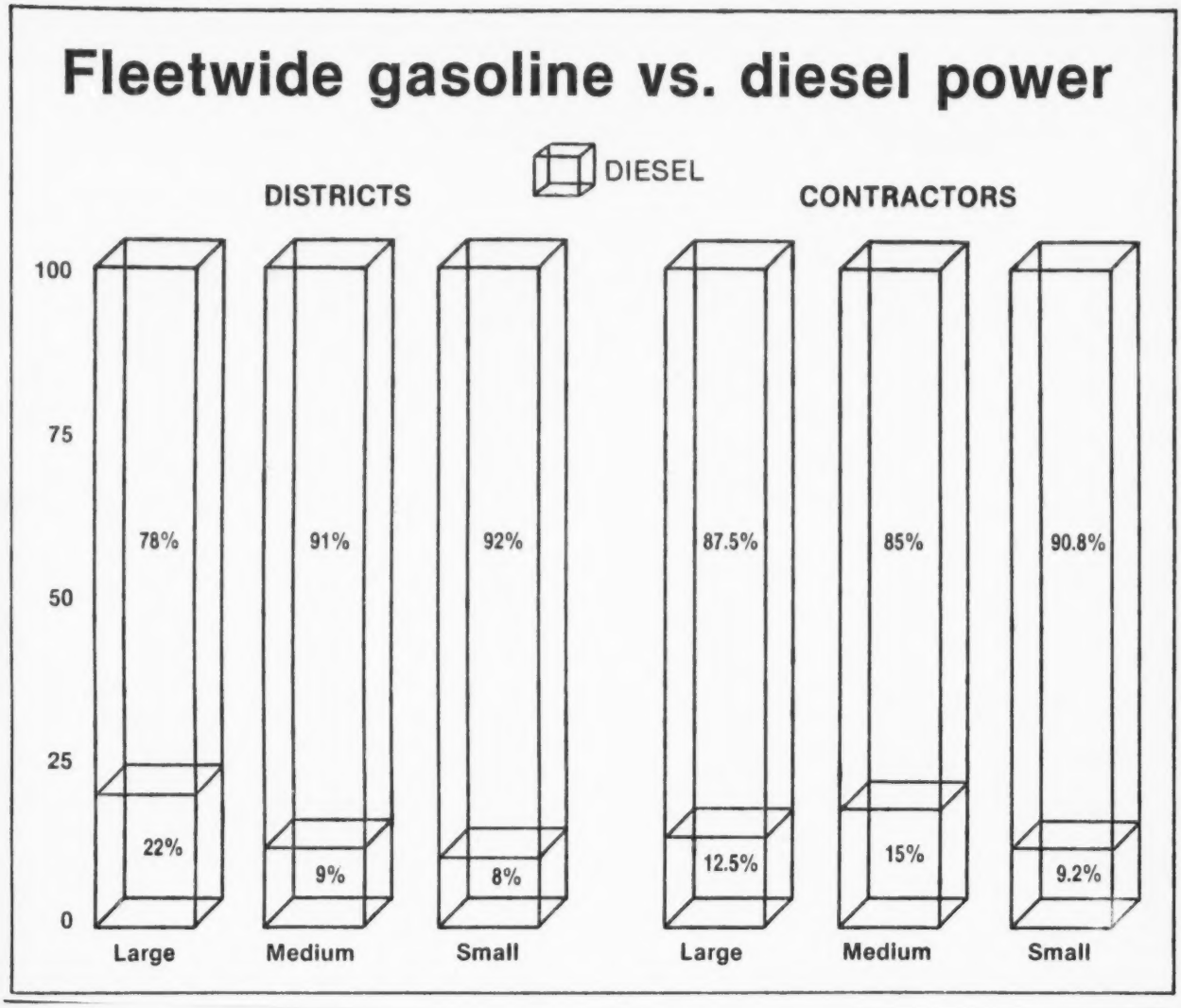
The increase in fleet mileage is also reflected in the responses received to the question: "Did your buses drive more/about the same/less miles presently than in the past?" Sixty-nine percent of our readers responding said that they are putting as much or more miles on their buses than in the past. Only 18 percent said they are driving fewer miles per bus.

Broken down by size of fleet, the fleets are driving more miles as they get larger. Among the largest sized fleets (those with 100 vehicles or more), 56 percent of those responding said that they are clearly driving more miles with their buses. That percentage is the same for both contractor operated and district operated fleets.

Large contractor fleets own more diesel powered vehicles than large school district fleets — almost double the percentage of vehicles owned in a given fleet. Large fleets were defined in the survey as those with 100 vehicles or more. The reverse is true among small and medium district fleets which have a higher percentage of diesels than contractor fleets. Small fleets are



Districts on average replace their vehicles after 10.5 years. Contractors replace their buses after an average 9.7 years of service.



According to the survey, 13.2 percent of buses are diesel powered. The overall contractor owned share is 16 percent; the average for district operations is 12.8 percent.

those with three to 25 vehicles; medium operations in the survey are defined as those with between 26 and 99 vehicles.

The overall percentage for diesel powered vehicles is 13.2 percent. While large district fleets have about the same percentage of diesel powered buses as the survey average of 12.5 percent, large contractors power 22 percent of their units by diesel fuel. Both small contractor and small district fleets have close to the same share of their buses powered by diesel engines, eight and nine percent respectively. A comparison of ownership among medium sized fleets indicates that district fleets own almost twice as many diesels as a percentage of their inventory as do contract fleets.

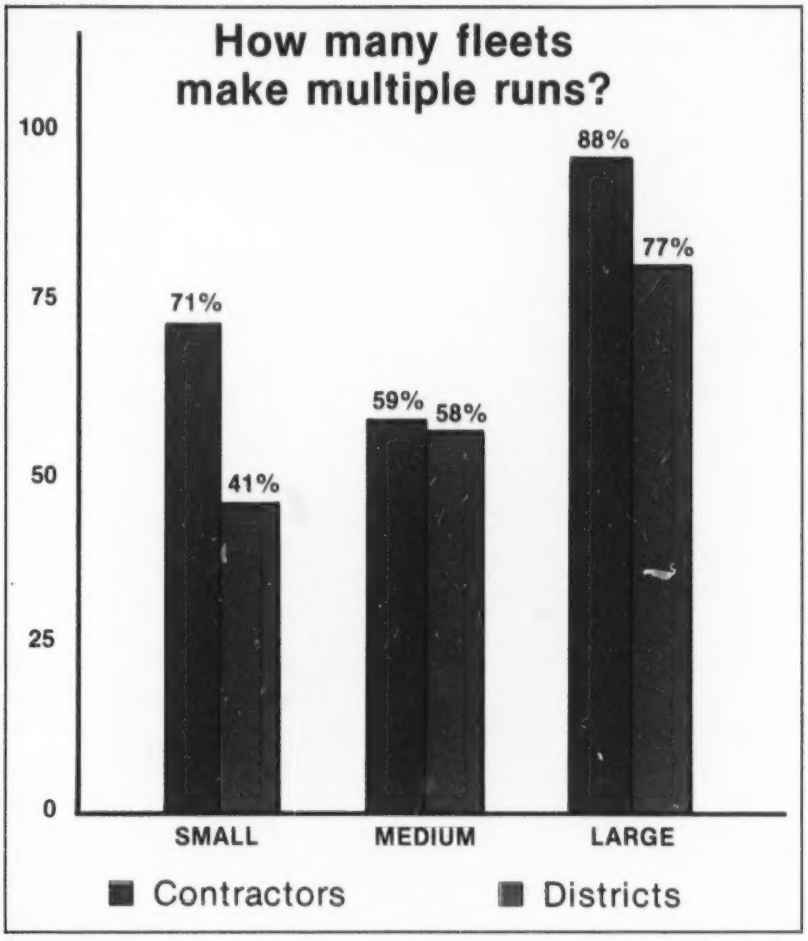
There does not seem to be an explanation of why elsewhere in the survey. Both categories turn their vehicles over in relatively the same amount of time (9.1 years for contractors versus 9.2 years for districts). Both make about the same amount of multiple runs (59 percent of the medium sized contract operations versus 58 percent of the medium sized district services.

As fleets get larger they drive more miles per bus.

One significant difference is that the medium sized contractor will replace their buses after an average of 138,000 miles while the district operators replace their buses after an average 108,000 miles.

The mileage reported by fleet size varies widely between contractors and districts. Average mileage in contractor fleets is highest among small operations, but among district fleets mileage is lowest for the smaller operations. The average annual mileage for a bus in a small contractor fleet was 15,000 while the yearly average for a vehicle in a district owned fleet was 13,747 miles.

For larger fleets, however, the comparison is reversed. Annual per bus mileage for a large district owned operation was 17,602 while the average for a large contractor fleet was 14,400 miles per bus, per year. The medium sized fleets averaged about the same for both contractors and districts, 14,600 and 14,751



Multiple runs are more common than previously surveyed. Overall, 69 percent of fleets reported multiple runs. Previous data indicated that the share was 40 percent.

miles respectively.

The trend in more multiple runs being made does not account for these disparities in mileage between the categories of ownership. According to the survey, while 71 percent of the small fleets that are contractor owned reported multiple runs, only 41 percent of the small district fleets reported multiple runs. That suggests that more than one run per bus accounts for the difference in mileage among the small fleets.

However the large district fleets reported that 77 percent of their buses make multiple runs while 88 percent of the buses in contracted operations with 100 or more vehicles make multiple routes. Thus, the comparison between larger fleets is not consistent with the comparison of the smaller operations.

Are your buses presently traveling more miles?

	Contractors			Districts		
	Small	Medium	Large	Small	Medium	Large
More	27%	39%	56%	21%	36%	56%
Same	64%	47%	22%	56%	49%	32%
Less	8%	13%	22%	23%	15%	12%

Perhaps not coincidentally, the survey found that the same percentage of fleets reported more or as much mileage travelled in 1982 than before as those that reported multiple runs — 69 percent.

Average replacement age for all vehicles is 10.4 years at 117,957 miles. The survey's average is influenced higher by the large district fleet average. While large district fleets replace their bus in the twelfth year (11.3 years, at 121,150 miles) on average, all other categories of ownership and fleet size report they replace their buses in the tenth year (9.5 years) of service. The large district fleets, with their higher bus population, influenced the average by about one year.

Leasing is much more popular among contractors than district operations. Twelve percent of contractors answer that they are presently leasing their buses while only five percent of school districts that operate their own fleets reported they were leasing.

Moreover, about 30 percent of the contractors, but only 16 percent of the districts, are considering the lease option. Differences in financial resources that contractors have to finance new equipment purchases versus public schools' appropriated resources likely account for the different views that the two groups have toward the leasing alternative.

Since little comprehensive data on most of the topics covered in our survey has been compiled previously, it is difficult to map where the industry is headed. One thing is certain: the industry's size and activity is at a record high. Statistics produced by the State Directors of Pupil Transportation, together with the data compiled by SCHOOL BUS FLEET over the years, indicate that more miles and more vehicles are on the road transporting school children than ever. Reports of the industry's demise have been somewhat exaggerated.

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When Is An Accident An Accident? Driver Training . . . Under The Bus

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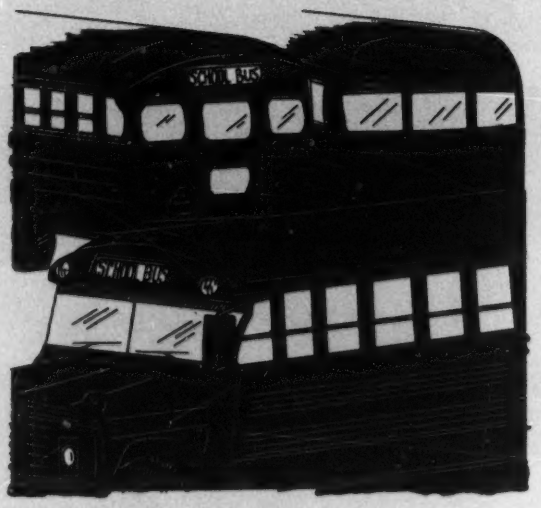

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On our cover: Carpenter's new Cadet.
Photo courtesy of Carpenter Body Works, Inc.

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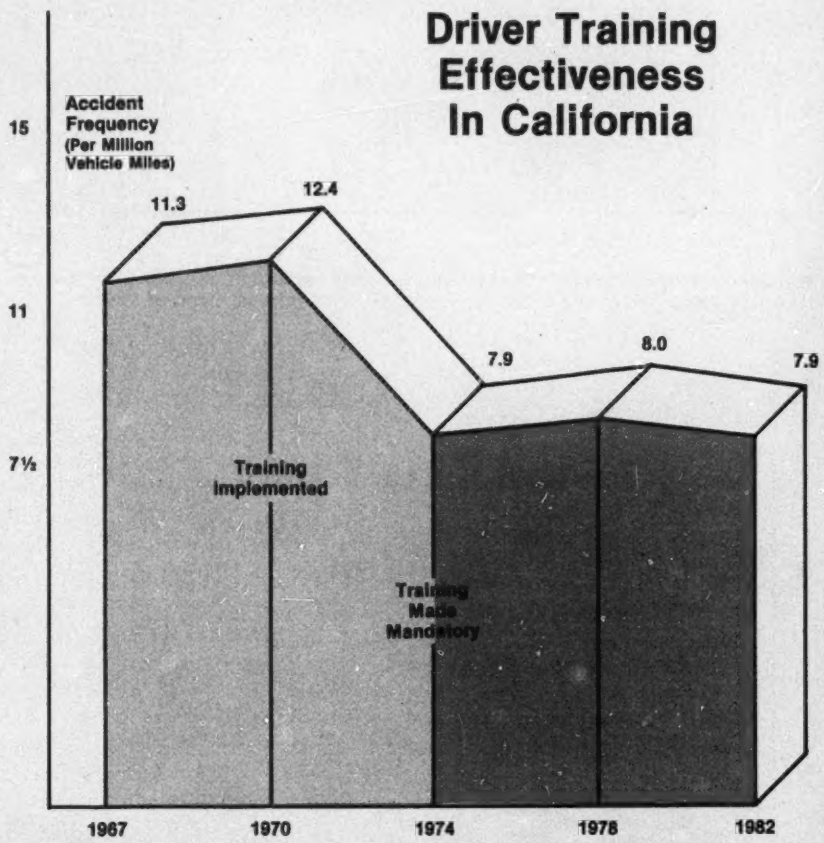
Now There Is Proof

A study released by the California Department of Education contains watershed information that confirms training reduces accident rates.

For years student transportation has battled to convince legislatures and executive agencies that school bus driver training programs are needed and, once in place, that they work. During that time, the industry has been without good, hard data to support their cause; it has only been able to rely on the strength of a "well, it's only obvious" argument.

As a result, federal money for driver training runs out at the end of this fiscal year. The current penny pinching mood of the Administration indicates that the funding will not resume unless given a compelling reason to do so.

The new studies might provide such a compelling reason. In April, the California Association School Transportation Officials (CASTO) and the California State Department of Education released data that show a decline in accident rates of states that have driver training programs over states that do not mandate school bus driver training.



From 1966 to 1969, the year in which California began its training program for school bus driver instructors, the accident rate remained roughly constant. According to the data, after 1979, when the state made instruction compulsory, the accident rate declined.

Pursuant to state law

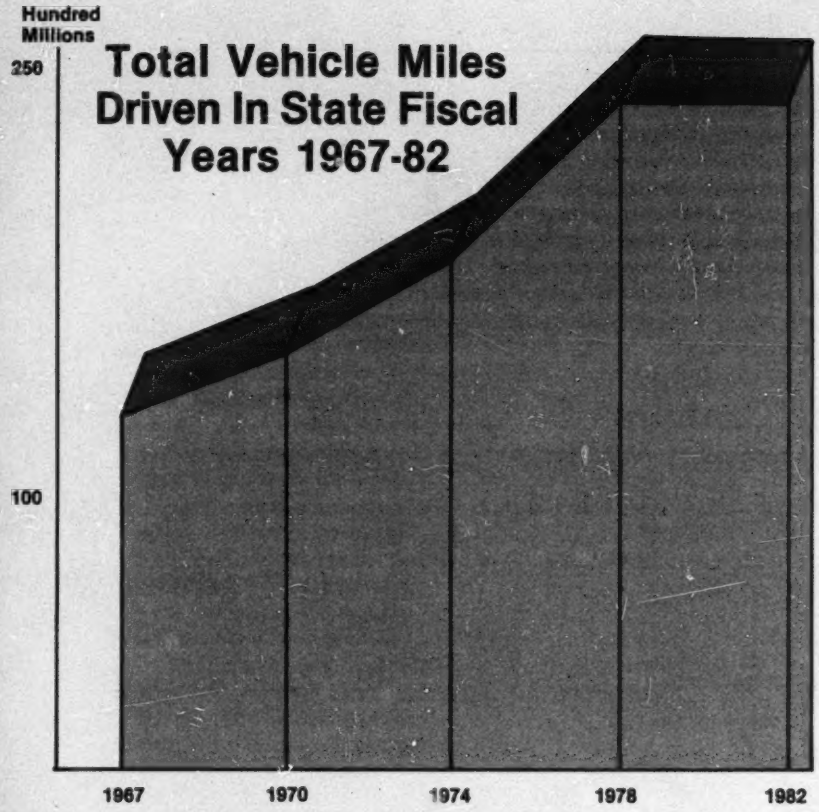
The activity in California is not just satisfying curiosity; study of the training hours requirement and its impact on accident rates has been mandated by a state law. Chapter 1509, Statutes of 1982 states: "The Legislature finds and declares that the number of hours required for behind the wheel training of school bus drivers was arrived at without sufficient objective justification."

School bus drivers in California are required to complete 20 hours of behind the wheel and 20 hours of classroom training before they can receive their license.

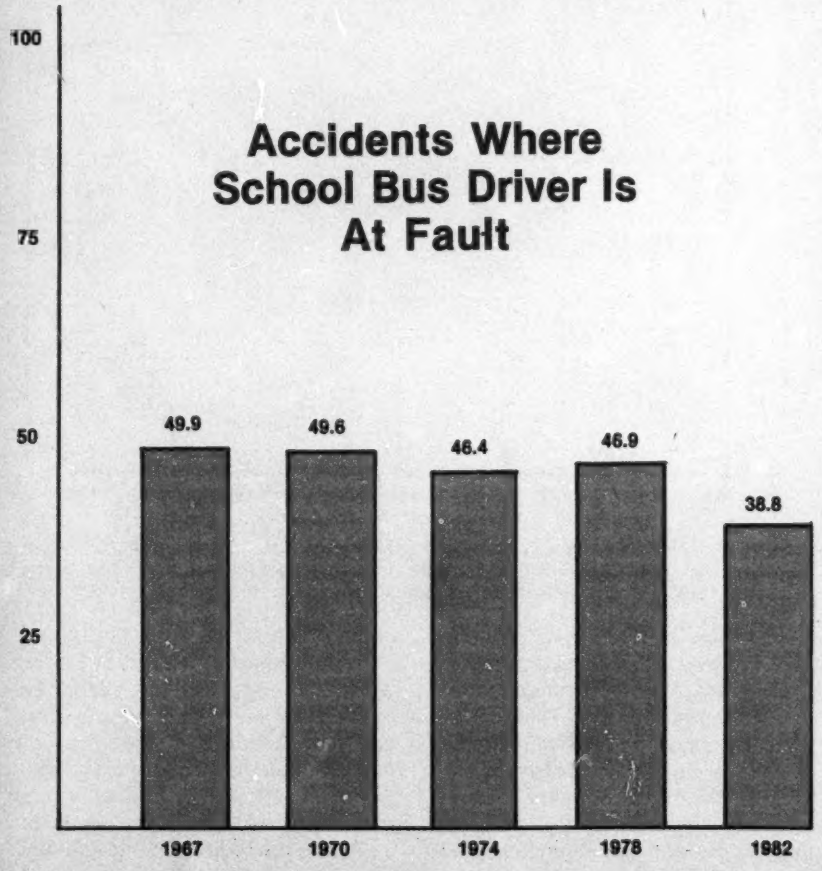
In November, 1982, then California Highway Patrol Commissioner Peter Craig wrote to the Superintendent of Public Instruction Bill Honig requesting "data on how behind the wheel training requirements were formulated" and a recommendation, if any, on "the validity of these requirements and any changes" that should be considered in the law.

Craig wanted the report by March 7, 1983, so that it could be reported to the state legislature by July 1 of this year. Action to change the current law is also expected at that time.

The Department of Education immediately set about the task of gathering the requested information.



While the number of bus miles has risen, the percentage where the bus driver was at fault has steadily decreased. Data compiled by the California Dept. of Education.



As part of their field review responsibilities, the state's school bus instructor training program staff contacted transportation administrators for records.

Ninety-two organizations from 23 counties heeded the call. Data was thus compiled on 959 of the 4,000 applicants for certificates last year.

The Department then broke down the data collected by type of bus and by public, private school, and contractor ownership.

Data on school bus accidents are compiled by the Highway Patrol. The Department of Education extracted from this data information on the number of driver related accidents, total accidents, buses registered, and miles driven since 1966.

A dramatic decline in accidents

This survey concludes that although the number of miles driven and number of buses on the road are increasing, the accident rate and the percentage of school bus driver caused accidents have steadily declined since mandatory driver training was implemented in the state in fiscal year 1970. Prior to that year the school bus accident rate was constant at about 12 per million miles traveled.

In general, more behind the wheel training hours were logged by Type I drivers than by Type II drivers. Although the study shows that 12.9 percent received the minimum 20 hours, the mean for Type I drivers was 28.59 hours. The average length of instruction that a Type II driver received was 24.97 hours.

The California requirements employ extensive evaluations that a prospective driver must pass before he or she is certified. If the applicant does not pass the evaluation, then more instruction must be taken. This accounts for the average number of instruction hours exceeding the 20 hour minimum. (Fully 8.03 percent of the Type I drivers and 4.38 percent of Type II drivers needed more than 40 hours to pass the tests.)

A second report, conducted by the California Association School Transportation Officials (CASTO), develops criteria that can be used to evaluate the document. This study concludes that "serious reliability problems occur when either time or proficiency standards are employed alone as the sole criteria for evaluating a training program. However, the two standards

TYPE 1 SCHOOL BUSES

	Buses	Percent	Buses	Percent	Vehicle Percent Increase
Public	7,804	62.61	9,565	50.58	22.57
Contractor	1,747	14.02	2,698	14.23	54.44
Private	862	6.92	911	4.82	5.57

TYPE 1 BUS ACCIDENT FREQUENCY

OWNERSHIP	1978-79	1981-1982	PERCENT CHANGE
Public	7.4	6.9	.5 decrease
Contractor	13.0	7.6	5.4 decrease
Private	10.6	13.4	2.8 decrease

TYPE 2 SCHOOL BUSES

	1970-71 Buses	Percent	1981-81 Buses	Percent	Vehicle Percent Increase
Public	979	7.85	2,342	12.38	142.19
Contractor	813	6.52	2,766	14.60	240.23
Private	259	2.08	622	3.28	140.16

Percentage sums may not add up due to rounding of figures

TYPE 2 BUS ACCIDENT FREQUENCY

OWNERSHIP	1978-79	1981-82	PERCENT CHANGE
Public	7.6	6.6	1.0 decrease
Contractor	7.5	6.6	.9 decrease
Private	6.5	18.5	12.0 increase

While there has been a more substantial percentage increase in the vehicles owned by districts and contractors than by private schools, the accident rates for the former two groups have declined but the rate for private schools has increased.

are effective when employed together." The Department of Education report employs the two standards together in evaluating the effectiveness of driver training.

"All of these studies will have dramatic implications nationwide for the industry," declares Ron Kinney, a state instructor for the California school bus instructor program. "Since we are only one of a few states that have mandatory training programs those that we have talked to in the rest of the nation have been very interested in the results."

One shortcoming in the data collected is revealed by the CASTO report. There has always been the question of how much training is enough. CASTO notes that it is "not aware of any research on the subject to answer" the issue of whether, for example, 20 hours of training is better than 10 hours. "The only information available provides a comparison between zero hours and current standards," concludes the CASTO report.

Nevertheless, the studies offer important information that has never been available before. Based on the mood of state lawmakers all over the country and in the federal government, such information could not have come at a better time.

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